

CLAIMS:

1. Process for producing a windable spunlaid material comprising
 - producing thermoplastic polymer filaments;
 - laying the filaments upon a moving support to provide at least one layer with a machine direction tensile strength of less than about 5 N per 5 cm at a basis weight of 50 gsm;
 - passing the at least one layer through a compacting calender having a surface temperature and nip pressure such that said temperature and said nip pressure do not cause the filaments of said at least one layer to exceed a melting point of the filaments; and
 - winding the at least one layer at a tension of less than about 200 N/m;wherein said at least one layer is provided in absence of prebonding of said filaments.

2. Process for producing a windable spunlaid material comprising
 - producing thermoplastic polymer filaments;

- laying the filaments upon a moving support to provide at least one layer with a machine direction tensile strength of less than about 5 N per 5 cm at a basis weight of 50 gsm;

- passing the at least one layer through a compacting calender having a surface temperature of less than about 130°C at a calender nip pressure of about 30 N/mm; and

- winding the at least one layer at a tension of less than about 200 N/m;

wherein said at least one layer is provided in absence of prebonding of said filaments.

3. Process according to claim 1 or 2 wherein said filaments are produced from a polyolefin.

4. Process according to claim 3 wherein said polyolefin is polypropylene.

5. Process according to claim 1 or 2 wherein said filaments are produced from a polyester.

6. Process according to claim 1 or 2 wherein the surface temperature of said calender is less than about 120°C.

7. A process according to claim 1 or 2 further comprising including an additive in said producing of the filaments.

8. A process according to claim 1 or 2 further comprising incorporating an additive in said at least one layer.

9. Process of forming a nonwoven material comprising

- producing thermoplastic polymer filaments;
- laying the filaments upon a moving support to provide at least one layer with a machine direction tensile strength of less than about 5 N per 5 cm at a basis weight of 50 gsm;

- passing at least one layer through a compacting calender having a surface temperature and nip pressure such that said temperature and said nip pressure do not cause the filaments to exceed a melting point of the filaments;

- winding the at least one layer at a tension of less than about 200 N/m; and

- unwinding the at least one layer and subjecting said at least one layer to hydroentanglement to provide a nonwoven material;

wherein said at least one layer is provided in absence of prebonding of the filaments.

10. Process of forming a nonwoven material comprising

- producing thermoplastic polymer filaments;

- laying the filaments upon a moving support to provide at least one layer with a machine direction tensile strength of less than about 5 N per 5 cm at a basis weight of 50 gsm;

- passing the at least one layer through a compacting calender having a surface temperature of less than about 130°C at a calender nip pressure of about 30 N/mm;

- winding the at least one layer at a tension of less than about 200 N/m; and

- unwinding the at least one layer and subjecting said at least one layer to hydroentanglement to provide a nonwoven material;

wherein said at least one layer is provided in absence of prebonding of the filaments.

11. Process according to claim 9 or 10 wherein said filaments are produced from a polyolefin.

12. Process according to claim 11 wherein said polyolefin is polypropylene.

13. Process according to claim 9 or 10 wherein said filaments are produced from a polyester.

14. Process according to claim 9 or 10 wherein the surface temperature of said calender is less than about 120°C.

15. A process according to claim 9 or 10 further comprising including an additive in said producing of the filaments.

16. A process according to claim 9 or 10 further comprising incorporating an additive in said at least one layer.

17. Process according to claim 9 or 10 wherein said hydroentanglement is carried out utilizing a plurality of water jets with varying pressures.

18. A spunlaid product produced by the process according to claims 1, 2, 9 or 10.

19. A spunlaid material comprising a plurality of thermoplastic polymer filaments being at least partially entangled and forming at least one layer in absence of prebonding, wherein the filaments of said at least one layer are not subjected to a temperature exceeding a melting point of the filaments, and said at least one layer is windable under a tension of less than about 200 N/m.

20. A material according to claim 19 wherein the thermoplastic polymer of said filaments is a polyolefin.

21. A material according to claim 20 wherein said polyolefin is polypropylene.

22. A material according to claim 19 wherein the thermoplastic polymer of said filaments is a polyester.

23. A material according to claim 19 further comprising incorporating an additive in said filaments.

24. A material according to claim 19 further comprising incorporating an additive in said at least one layer.

25. A material according to claim 19 wherein said at least one layer is essentially free of bonding sites.